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Trust Building and Sustainable Internet Banking

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ABSTRACT

This paper empirically explores customers' trust in Internet banking based on a research model with several constructs such as structural assurance, perceived bank reputation, perceived website quality, and disposition to trust. The results suggest that these constructs significantly influence trusting beliefs and customers' willingness to use Internet banking, which in turn have a positively impact on the establishment of customers' trust in Internet banking. Trust building should strengthen customers' confidence in Internet banking and facilitate the development of sustainable Internet banking services.

Keywords

Internet banking, customers, trust, e-service.

INTRODUCTION

Internet banking has been extensively developed for the delivery of banking services through the Internet accessible by individual users. It effectively enables customers to obtain financial data and carry out retail banking services such as balance reporting, inter-account transfers and bill-payment via the Internet without leaving their homes or organizations (Daniel, 1999; Sathye, 1999). It also provides customers with financial information, access to deposit account data, and delivery of products and services electronically, which may lead to the creation of digital value (Jones, Wilikens, Morris and Masera, 2000). In Hong Kong, the development of Internet-enabled e-banking is promising, because the number of Internet users is growing rapidly. However, the lack of physical presence of bank branches and limited interactions between banks and customers render Internet banking a unique environment, in which trust is of importance (Aladwani, 2001). The enormous potential of e-services can be realized only if customers feel comfortable transacting over the new medium with electronic vendor (Gefen and Straub, 2002). Therefore, it is challenging to effectively establish customers' trust and enhance Internet banking services.

The role of trust in e-commerce has been explored in existing literature (e.g. Jarvenpaa and Tractinsky, 1999; Friedman, Kahn and Howe, 2000; Gefen, 2000). Trust may enable customers to enhance their confidence about in an e-commerce vendor. However, the way in which trust may be gained and the impact it has on Internet banking outcomes are not yet fully appreciated (Jones, Wilikens, Morris and Masera, 2000). Therefore, customers' trust in Internet banking is a critical challenge facing bank managers, warranting further research (Aladwani, 2001). This paper aims to identify what trust building factors are significant to customers' trusting beliefs and their willingness to depend on Internet banking service providers. In particular, it attempts to explore general perceptions of critical factors and their effects on the establishment of customers' trust in the context of Internet banking.

RESEARCH MODEL

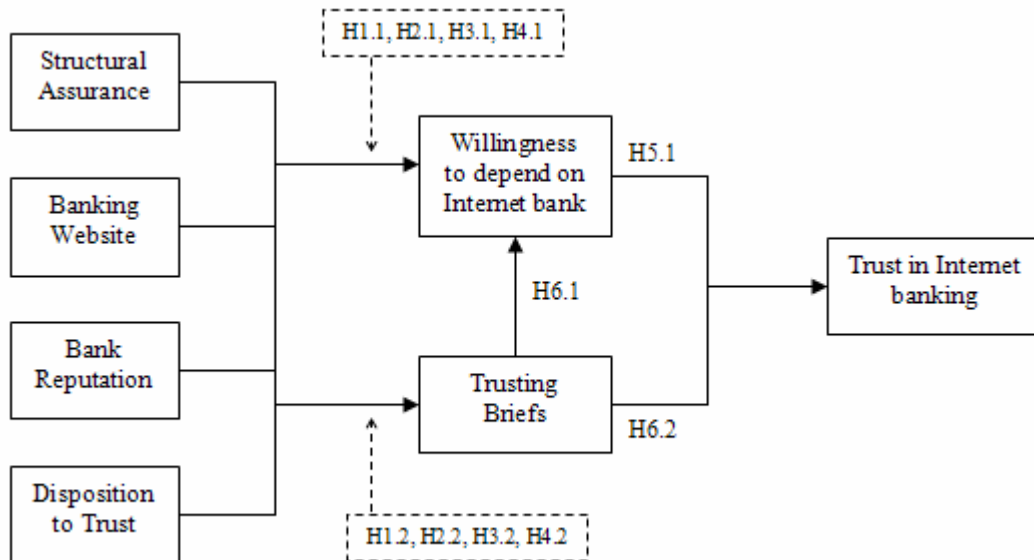
Building trust is an emerging concern in e-commerce (Hoffman, Novak and Peralta, 1999). Various types of trust have been proposed (e.g. Butler 1991, Mayer, Davis and Schoorman, 1995; Cummings and Bromiley, 1996). Many explain trust from a particular disciplinary point of view. For example, psychologists describe trust as a tendency to trust others (Rotter, 1971). In addition, social psychologists attempt to define trust as cognition about the trustee, while sociologists consider trust as a characteristic of the institutional environment (Rempel, Holmes and Zanna, 1985).

Previous research has confirmed a strong correlation between behavioral intentions and actual behavior (Venkatesh and Davis, 2000). Behavior intentions go beyond willingness to depend on the Internet vendor. Instead, it involves a specific, solid intent, similar to what McKnight and Chervany (2002) call subjective probability of depending. Therefore, it is useful to examine whether customers would like to follow the advice of a service provider, share personal information, and use existing services.

According to Mayer, Davis and Schoorman (1995), trust can be considered as the willingness of a party to be vulnerable to the actions of another party, based on expectation that the other will perform a particular action important to the trustee, irrespective of the ability to monitor or control that other party. The issue of trust arises, because economic transactions

involve risks (Humphrey and Schmitz, 1998). This is particularly true in the case of Internet banking where banks and customers are physically separated. Luhmann (1979) state that the greater the perceived risk, the more important is the role of trust, because trust could reduce complexity by ruling out possible, but undesirable and unfavorable, future actions of other people or organizations.

Figure 1 The Research Model



As depicted in Figure 1, the research model hypothesizes several set of antecedents: Structural assurance of the web, two vendor-specific factors (perceived site quality and perceived vendor reputation), and disposition to trust. These constructs might influence customers' trusting beliefs in (perceptions of the attributes of a specific web vendor), and trusting intention towards (willingness to depend on) an Internet banking service provider. Trusting beliefs together with trusting intention constitutes the so-called trust (Mcknight, Cummings and Chervany, 1998). Actually, this study focuses on examining the relationship between trust building factors and trust to Internet banks. The four dimensions of trust building factors include structural assurance of Internet bank, perceived bank reputation, bank website quality, and disposition to trust. It also examines whether trusting beliefs and trusting intention significantly influence customers' trust in Internet banking.

HYPOTHESES

Structural Assurance of Internet Banking

Structural assurance is a construct of institution-based trust, while institution-based trust is the belief that structural conditions are present to enhance the probability of achieving a successful outcome in an endeavor. Structural assurance means that one believes that such structures as guarantees, regulations, promises, legal resource, or other procedures are in place (Shapiro, 1987). Sociologists found that trust in people is supported by institutional structures (i.e. legal, governmental, contractual, and regulatory structures) that create an environment in which individuals feel safe and secure. In case of e-commerce, structural assurance means that belief that the web has protective legal or technological structures that assure that web business can be conducted in a safe and secure manner (Borenstein, 1996). The slow arrival on the Internet of protective legal, technological, economic and social system is one reason for the concern expressed by consumers on the security of the web environment for conducting personal business (Ba, Whinston and Zhang, 2000).

Structural assurance of the web can be related to both trusting beliefs and willingness to depend on a service provider. When a situation is safe, one may believe that those in the situation have trustworthy attributes (Mcknight, Cummings and Chervany, 1998). Mcknight and Chervany (2002) suggest that with a high level of structural assurance regarding the Internet, one would be more likely to believe in the goodness of Internet vendors (trusting beliefs) and to reply on specific Internet vendors (willingness to depend) because of secure feeling are presented. They also argue that structural assurance relates to trusting beliefs and willingness to depend because a person is more likely to trust those operating in a safe and

secure environment. That is, perceptions about the goodness of an environment are likely to color perceptions of individuals or groups associated with that environment (Mcknight, Cummings and Chervany, 1998). As far as the above is concerned, the following hypotheses are examined in the context of Internet banking.

- H1.1 Structural assurance of Internet bank will be positively related to the trusting beliefs of customers.
- H1.2 Structural assurance of Internet bank will be positively related to customers' willingness to depend on Internet banking.

Banking Website Quality

Customers might form their trust based on available information (Meyerson, Weick and Kramer, 1996), while the information often comes in the form of small signals (Menon, Konana, Browne and Balasubramanian, 1999), or trustee's voice (Baldwin, 1992). In terms of e-banking, the website is an interface enabling customers to interact with the bank. In addition to the design of the site, the information quality should affect the formulation of trust. If customers perceived an e-banking website to be of high quality, they would be likely to establish trust on the bank. As far as this is concerned, the following hypotheses are tested.

- H2.1 Perceived website quality will be positively related to trusting beliefs of customers.
- H2.2 Perceived website quality will be positively related to customers' willingness to depend on Internet banking.

Perceived Bank Reputation

According to Malaga (2001), reputation is defined as an overall quality or character as seen or judged by people in general. Reputation means that one assigns attributes to a person based on second-hand information about them (Mcknight, Cummings and Chervany, 1998). Reputation arises from a popular brand name, endorsement by trusted parties can be considered as a trust builder (Dasgupta, 1998). Jarvenpaa and Tractinsky (1999) also suggest that perceived reputation positively affected individual trust in an online store. Customers would not go for those websites with little reputation (Ba, 2001). In the context of Internet banking, customers might not have enough personal experience. Information from others might alleviate user's perception of risk and insecurity in interacting with the Internet bank. As a result, it might enhance their beliefs about the bank's integrity and competence. It might also engender in their willingness to depend on the bank. Therefore, the following hypotheses are proposed.

- H3.1 Perceived reputation will be positively related to the trusting beliefs of customers.
- H3.2 Perceived reputation will be positively related to customers' willingness to depend on Internet banking.

Disposition to Trust

According to Mcknight, Cummings and Chervany (1998), disposition to trust is the extent to which a person displays a tendency to be willing to depend on others across a broad spectrum of situations and persons. Disposition to trust is a general, not situation specific, inclination: (a) to display faith in humanity, and (b) to adopt a trusting stance toward others. The former deals with the beliefs that people in general are trustworthy, while the latter deals with the beliefs that better results will be obtained by giving people credit and trusting them, regardless of whether this trust is justified. Such as tendency is not simply based on experience with, or knowledge of, a specific trusted party. However, it is the result of an ongoing lifelong experience (Rotter, 1971) and socialization (Fukuyama, 1995).

Disposition to trust should influence trusting beliefs, because it may affect the interpersonal relationship (Mcknight, Choudhury and Kacmar, 2002). In a commercial environment, disposition to trust influences trust in vendors (Gefen 2000). The direct effect of disposition to trust on trusting beliefs is likely to be the strongest, when both the institutional context and the specific trustee are unfamiliar to individuals (Rotter, 1971; Bigley and Perace, 1998). As faith in humanity reflects the extent to which one believes that non-specific others are trustworthy, this characteristic may influence one's initial trusting beliefs.

Trusting stance is a construct of disposition to trust, which influences one to be intentionally willing to depend on another, regardless of beliefs in other. An individual with high trusting stance probably believes that things turn out best when one is willing to depend on others, even though others may or may not be trustworthy. Thus, trusting stance directly supports one's willingness to depend on a particular person (Mcknight, Cummings and Chervany, 1998). Moreover, disposition to trust should positively influence perceptions of the institutional setting, that is structural assurance (Mcknight, Choudhury and Kacmar, 2002). According to Mcknight, Cummings and Chervany (1998), a person who believes in the honesty and benevolence of people generally will have stronger beliefs in the security afforded by human institutions. That means one's structural assurance belief may be partly based on how one feels about people in general. Trusting stance also affect

initial structural assurance belief. An individual with high trusting stance believes that trusting others facilitates success, regardless of his or her beliefs about specific people. One may have a higher inclination to believe the structural assurance. Therefore, the following hypotheses are proposed.

H4.2 Disposition to trust will be positively related to the trusting beliefs of customers.

H4.2 Disposition to trust will be positively related to customers' willingness to depend on Internet banking.

Willingness to Depend on Internet Banking

Willingness to depend on a vendor is a trust construct (Mcknight, Cummings and Chervany, 1998). It reflects the volitional preparedness to make oneself vulnerable to the trustee, a concept commonly used to define trust (Mayer, Davis and Schoorman, 1995). Professing a general willingness to depend on the other means that one has made a conscious choice to put aside doubts and to move forward with the relationship instead of holding back (Holmes, 1991). In general, trust affects individual willingness to shop (Morgan and Hunt, 1994; Doney and Cannon, 1997), and to make purchase decision on the Internet (Urban, Sultan and Qualls, 2000). In the context of Internet banking, if one is willing to depend on an existing bank, one is more likely to be willing to accept the specific vulnerabilities associated with using the services. Actually, willingness to depend is general and non-committal, while the behavioral intention to use is specific and inhere risk (Mcknight, Choudhury and Kacmar, 2002). One is willing to depend on a vendor is different from willing to take risk through following vendor advice, sharing information and purchasing. Therefore, Hypothesis 5 is proposed.

H5.1 Customers' willingness to depend will have a positively effect on their trust in Internet banking.

Trusting Beliefs

Trusting beliefs are perception of the trustworthiness of the object of trust. Trusting beliefs means the confident of trustor perception that the trustee has attributes that are beneficial to the trustor (e.g. Mayer, Davis, and Schoorman, 1995; Mcknight and Chervany, 2002). Despite of the fact that various trusting beliefs have been examined, four beliefs are commonly used (Mcknight, Cummings, and Chervany, 1998). They are integrity (trustee honesty and promise keeping), benevolence (trustee caring and motivation to act in the interests of trustor), competence (ability of the trustee to do what the trustor needs), and predictability (consistency of trustee behavior). Mayer, Davis and Schoorman (1995) argue that a trustee who possesses these traits is desirable as an exchange partner, because one will behave ethically, kindly, skillfully, and consistently in the exchange.

According to Mcknight, Choudhury and Kacmar (2002), an honest vendor would fulfill agreements with the consumer, benevolent vendor would not intentionally harm the consumer and competent vendor would do a good job filling consumer orders with five products. Thus, a high trusting belief would encourage individuals to be willing to depend on the vendor. Trusting beliefs positively affect intention to purchase, because individuals would perceive that the vendor would be able to provide goods and services because of its competence, and be willing to deliver goods and services because of its benevolence and integrity. Previous studies have shown that trusting beliefs directly or indirectly influence customers' intention to Internet shopping (Jarvenpaa and Tractinsky, 1999; Grazioli and Jarvenpaa, 2000). Therefore, direct effects of trusting beliefs on customers' willingness to depend and their trust in Internet banking are hypothesized are follows.

H6.1 Trusting beliefs will positively affect customers' willingness to depend.

H6.2 Trusting beliefs will have a positively effect on customers' trust in Internet banking.

RESEARCH METHODS

The research methods include design of questionnaire, survey of individual customers, and statistical data analysis. Firstly, the survey aimed to elucidate individuals' perceptions about structural assurance, perceived vendor reputation, perceived site quality, disposition to trust, trusting beliefs, willingness to depend, perceived risk, and their intention to use Internet banking. Accordingly, it included a number of items in relation to each of the constructs depicted in the research model. A seven-point Likert-scale ranging 1 to 7 was use to measure the perceived importance of individual item. A pilot test was conducted to validate the instruments and fine tune the wordings of the questionnaire. At least ten individuals of Internet banking were requested to review the questionnaire to determine whether the questions are applicable and appropriate. The questionnaire was then randomly distributed to individuals in Hong Kong, which resulted in the collection of 220 responses. The survey also collected the demographic data of respondents, including gender, age, education, and whether they actually use Internet banking services. The statistical Package for Social Science (SPSS) for windows was employed to perform data analysis. In particular, Cronbach's alpha coefficients were calculated to identify the internal consistency

of the items in each construct. Multiple regression analysis was also conducted to validate the research model and examine the hypotheses proposed in the previous section.

Table 1 Results of Reliability Analysis

Construct	Number of items	Cronbach's alpha
Structural assurance	6	.9148
Bank reputation	5	.8858
Website quality	10	.9011
Disposition to trust	6	.8647
Willingness to depend	4	.9355
Trusting beliefs	9	.9218
Customers' trust	6	.8954

Table 2 Results of Regression Analysis

	Standardized Coefficients (β)	t-value	Sig.
(Constant)		-4.474	.000
H1.1 Structural assurance	.373	5.914	.000
H2.1 Website quality	.235	3.471	.001
H3.1 Bank reputation	.189	2.805	.006
H4.1 Disposition to trust	.068	1.154	.250

Note: Dependent Variable: Willingness to depend; $F = 57.932$, d.f. = 4, 208, $p < 0.001$ Adjust $R^2 = 0.518$

	Standardized Coefficients (β)	t-value	Sig.
(Constant)		.383	.702
H1.2 Structural assurance	.250	3.701	.000
H2.2 Website quality	.288	3.964	.000
H3.2 Bank reputation	.056	.773	.440
H4.2 Disposition to trust	.233	3.719	.000

Note: Dependent Variable: Trusting beliefs; $F = 43.847$, d.f. = 4, 208, $p < 0.001$; Adjust $R^2 = 0.447$

	Standardized Coefficients (β)	t	Sig.
(Constant)		.174	.862
H5 Willingness to depend	.731	16.476	.000
H6 Trusting belief	.195	4.394	.000

Note: Dependent Variable: Trust in Internet banking; $F = 316.469$, d.f. = 2, 210, $p < 0.001$ Adjust $R^2 = 0.748$

RESULTS AND DISCUSSION

Reliability test confirms the resulting Cronbach's alpha coefficient for each of the constructs is greater than 0.7 (Table 1). Therefore, the items within a particular construct are relevant and reliable. Multiple regression analysis results in that the research model significantly explains the impact of various constructs on customers' trust to Internet banking (Table 2).

Firstly, Hypotheses 1.1 and 1.2 are supported, because the results indicate that structural assurance has a positive impact on customers' trusting beliefs and their willingness to depend on Internet banking service providers. Actually, structural assurance reflects customers' concern about the virtual environment of the Internet. The general perception of low structural security of the Internet is a barrier to trust in Internet banking. Some customers are reluctant to use Internet banking, because they are afraid the uncertainty of on-line operations. They are also concerned about the privacy and security of personal data. It is desirable if serious measures are implemented to protect individual privacy and security. Customers' perceptions on structural assurance significantly influence the trustworthiness of e-banking service providers. Customers would feel confident in using Internet banking, if they believe rigor procedures are in place to regulate e-banking operations. Therefore, structural assurance significantly explains customers' trusting beliefs and their willingness to depend on Internet banking.

Secondly, Hypotheses 2.1 and 2.2 are supported. Perceived website quality has a positive and direct relationship with both customers' trusting beliefs and their willingness to depend on the Internet bank. In particular, the perceived website quality has a significant impact on customers' trusting beliefs. This is because customers usually draw strong trustworthiness inferences about the bank when they see something in concrete. In addition, the perceived site quality is positively related to customers' willingness to depend on the Internet banking service provider. Customers tend to be more willing to depend on the bank, if they are satisfied with the use of the Internet banking website. A high quality e-banking website should be well designed, easy to use, and easy to navigate. It should provide customers with accurate and useful financial data. As a result, the customers' inclination to depend on the bank will increase.

Thirdly, the results reveal that perceived bank reputation positively affects customers' trusting beliefs and their willingness to depend on Internet banking service providers. Therefore, Hypotheses 3.1 is supported. This can be explained by the characteristics of Internet banking service providers in Hong Kong. Most Internet banking service providers have physical branches with long history. Therefore, perceived reputation can be formulated by the perception of their traditional banking operations, instead of Internet banking. Perceived bank reputation can be a predictor of customers' willingness to depend on the bank. However, H3.2 is not supported. In other words, perceived reputation may not be directly related to the trusting beliefs on Internet banks. Instead, customers establish their own trust on Internet banking, based on the consistent impression of an existing bank. Therefore, customers tend to depend on a bank, which possesses traditional operations and well-established reputation, together with its Internet banking services.

Hypothesis 4.1 receives limited support, which indicates that disposition to trust does not significantly affect customers' willingness to depend on the Internet banking services. In Hong Kong, customers can easily walk in a physical bank branch to carry out banking transactions because of convenience and security, even if they may have a considerable disposition to trust. On the other hand, Hypothesis 4.2 is support. Disposition to trust is positively related to trusting beliefs in Internet banking service providers. In other words, the customers possess a greater confidence in Internet banking services, if they have a higher disposition to trust. Hypothesis 5.1 is supported. Customers' willingness to depend on the Internet banking service providers should encourage customers to use Internet banking. This is because the customers gradually develop their willingness to take the leap of faith with respect to the bank, before they have an intention to use the Internet banking services.

Furthermore, Hypothesis 6.1 regarding trusting beliefs is supported. It suggests that trusting beliefs positively relates to willingness to depend on the Internet banking service provider, which has a significant coefficient in predicting willingness to depend than reputation does. It also indicates that direct personal beliefs about the characteristics of Internet bank have a strong impact. In other words, customers tend to believe the information that they collect in the first scene, rather than listening from others. Finally, Hypothesis 6.2 is supported, which suggests that trusting beliefs positively influence individual intention to use Internet banking services. Banks should be able to attract more customers to use their Internet banking through providing customers with competent and generous services.

CONCLUSION

The empirical results suggest that structural assurance, perceived reputation, high quality website and disposition to trust are fundamental to the trust building of Internet banking services. Therefore, banks should employ the most advanced Internet security technology and implement systematic procedures to manage e-banking services in order to protect privacy and security. In particular, a high level of structural assurance should provide a concrete confidence for customers to conduct financial transactions over the Internet banking platform. In the virtual environments, customers do not have face-to-face physical interactions with the Internet banking service providers. Therefore, a user-friendly and well-designed website should encourage customers to use e-banking services. More importantly, a professionally managed website should enhance customers' trust in Internet banking services. Customers would not use the services offered by the Internet banking service provider, if they perceived even a minimum risk. It is essential for banks to secure Internet banking operations by implementing stringent administrative measures to protect personal data and eliminate potential lost of individual assets. Banks might considerably increase customers' confidence by demonstrating how Internet banking is effectively conducted and what information is strictly protected. Finally, banks should devote to enhance customers' trust by illustrating their excellent services and the benefits that customers can obtain from using Internet banking.

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